

CLIMATOLOGY OF COSTA RICA.

Communicated by Mr. H. PITIER, Director, Physico-Geographic Institute.

TABLE 1.—Hourly observations at the Observatory, San José de Costa Rica, during August, 1903.

Hours.	Pressure.		Temperature.		Relative humidity.		Rainfall.		
	Observed, 1903.	Normal, 1889-1900.	Observed, 1903.	Normal, 1889-1900.	Observed, 1903.	Normal, 1889-1900.	Duration, 1903.	Ins.	Hrs.
1 a. m.	Inches.	Inches.	° F.	° F.	%	%	Ins.	Ins.	Hrs.
2 a. m.	26.16	26.14	62.4	63.4	94	91	0.04	0.03	2.00
3 a. m.	26.16	26.13	61.9	63.3	93	91	0.02	0.02	0.67
4 a. m.	26.14	26.11	61.5	63.2	93	91	0.02	0.02	1.00
5 a. m.	26.13	26.11	61.2	62.6	93	92	0.04	0.01	1.00
6 a. m.	26.14	26.11	60.8	62.4	93	90	0.04	0.02	1.00
7 a. m.	26.14	26.11	60.6	62.1	92	91	0.02	0.03	1.00
8 a. m.	26.16	26.14	64.3	66.2	81	85	0.00	0.05	.....
9 a. m.	26.17	26.15	68.5	69.3	73	78	0.01	0.05	0.17
10 a. m.	26.17	26.15	72.1	70.7	69	73	0.01	0.09	0.17
11 a. m.	26.17	26.15	74.4	73.8	64	70	0.00	0.13	.....
Noon	26.17	26.14	76.1	75.8	62	70	0.01	0.25	0.33
1 p. m.	26.15	26.13	75.8	76.0	66	69	0.02	0.39	1.00
2 p. m.	26.13	26.11	75.2	75.1	68	71	0.13	0.77	0.50
3 p. m.	26.11	26.10	73.9	73.4	64	73	0.86	1.21	2.83
4 p. m.	26.11	26.09	70.8	71.3	80	78	1.23	1.35	7.49
5 p. m.	26.11	26.09	68.9	69.3	83	82	4.03	1.82	11.84
6 p. m.	26.12	26.10	67.0	68.0	87	86	2.35	1.29	12.84
7 p. m.	26.12	26.12	65.8	66.6	89	88	2.69	1.10	13.00
8 p. m.	26.16	26.13	65.0	65.7	92	89	2.16	0.80	12.67
9 p. m.	26.17	26.15	64.4	65.2	93	90	0.98	0.33	10.16
10 p. m.	26.18	26.15	64.0	64.6	92	90	0.51	0.15	6.50
11 p. m.	26.19	26.16	63.4	64.3	93	90	0.17	0.09	3.67
Midnight	26.19	26.15	62.8	63.9	94	90	0.09	0.05	3.00
Mean	26.15	26.13	66.6	67.5	85	84	.....	.....	.....
Minimum	26.06	26.01	56.1	55.8	44	.....	.....	.....	.....
Maximum	26.26	26.25	81.7	84.7	100	.....	.....	.....	.....
Total	.....	.....	.....	.....	15.43	10.14	93.84	.....	.....

REMARKS.—At San José the barometer is 1169 meters above sea level. Readings are corrected for gravity, temperature, and instrumental error. The hourly readings for pressure, and wet and dry bulb thermometers, are obtained by means of Richard registering instruments, checked by direct observations every three hours from 7 a. m. to 10 p. m. The thermometers are 1.5 meters above ground and are corrected for instrumental errors. The total hourly rainfall is as given by Hottinger's self-register, checked once a day. Under maximum, the greatest hourly rainfall for the month is given. The standard rain gage is 1.5 meters above ground. Since January 1, 1902, observations at San José have been made on seventy-fifth meridian time, which is 0 hours, 36 minutes, 13.8 seconds in advance of San José local time. The normals for pressure, temperature, and relative humidity have been adjusted to this time; the normal for rainfall in Table 1 and the sunshine observations and normal in Table 2 refer to local time. At Port Limón the hours of direct observation are 8 a. m., 2 and 8 p. m., San José local time; the barometer is 3.4 meters above sea level. The means for temperature and relative humidity in Table 4 are obtained from two-hourly readings given by a Richard self-registering thermometer.

TABLE 2.—San José, August, 1903.

Time.	Sunshine.		Cloudiness.		Temperature of the soil at depth of—				
	Observed, 1903.	Normal, 1889-1900.	Observed, 1903.	Normal, 1889-1900.	6 inches.	12 inches.	24 inches.	48 inches.	120 inches.
7 a. m.	Hours.	Hours.	#	#	° F.	° F.	° F.	° F.	° F.
7 a. m.	11.77	8.32	58	56	69.4	70.0	71.0	70.6	70.7
8 a. m.	19.23	18.32							
9 a. m.	21.69	19.95							
10 a. m.	21.32	17.86	74	76	69.6	69.9	71.0	70.7	
11 a. m.	20.60	15.63							
Noon	18.85	12.97							
1 p. m.	14.76	11.37	86	84	70.4	70.2	71.0	70.7	
2 p. m.	15.11	11.22							
3 p. m.	10.71	9.03							
4 p. m.	7.89	5.87	95	88	70.8	70.5	71.0	70.6	
5 p. m.	5.42	2.72							
6 p. m.	0.56	0.83							
7 p. m.			86	79	70.7	70.6	71.0	70.6	
8 p. m.									
9 p. m.									
10 p. m.			81	59	70.6	70.5	71.1	70.6	
11 p. m.									
Midnight									
Mean			83	74	70.3	70.3	71.1	70.6	70.7
Total	167.91	134.09							

TABLE 3.—Rainfall at stations in Costa Rica, August, 1903.

Stations.	Height above sea level.	Observed, 1903.		Averages.	
		Amount.	Number of days.	Amount.	Number of days.
Sipurio (Talamanca)	60	.....	.....	3	11.69
Boca Barranca	3	4.53	18	13	31
Port Limon	3	1.85	6	9	14.61
Swamp Mouth	3	5.91	8	5	7.99
Zent	29	3.82	17	2	10.67
Siquirres	60	0.51	8	5	12.56
Dos Nivillos	122	.....	.....	15	.....
Guapiles	300	10.63	18	3	18.47
Cariblanco (Sarapiquí)	835	.....	.....	5	22.20
San Carlos	161	13.62	22	5	14.37
Las Lomitas	266	.....	.....	3	10.71
Peralta	332	13.46	23	4	13.15
Turrialba	620	1.97	9	7	10.55
Juan Viñas	1,040	3.11	20	6	8.53
Santiago	1,100	13.07	23	2	7.13
Paraiso	1,336	15.16	20	2	7.76
Cachi	1,020	11.97	20	.....	.....
Las Concavas	1,337	13.42	27	2	6.98
Cartago	1,451	15.83	25	3	6.54
Tres Ríos	1,300	19.72	24	13	9.10
San Francisco Guadalupe	1,187	.....	.....	7	8.62
San José	1,160	15.43	26	14	9.92
La Verbená	1,140	16.54	29	7	7.52
Nuestra Señora	791	13.07	20	7	7.01
Alajuela	950	16.69	24	3	11.30
San Isidro Alajuela	1,346	28.42	27	2	15.51
Las Cañas	780	.....	.....	16	.....

TABLE 4.—Observations taken at Port Limón and Zent, August, 1903.

Stations.	Pressure.		Temperature.		Relative humidity.
	Minim.	Max.	Minim.	Max.	
Port Limón	Inches.	Inches.	° F.	° F.	%
Zent	.....	.....	66.2	91.6	79.1
Rainfall.		Temperature of soil at depth of—		Rainfall.	
Cloudiness.		Sunshine.		6 inches.	12 inches.
#		Hours.		° F.	° F.
Port Limón	69	213.58	1.85	81.1	81.1
Zent	3.82	17

MEXICAN CLIMATOLOGICAL DATA.

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August, 1903.

Stations.	Altitude.	Mean barometer.*	Temperature.			Prevailing direction.
			Max.	Min.	Mean.	
Chihuahua	4,684	25.21	93.2	63.5	76.8	e.
Guadalajara (Obs. del Est.)	5,186	24.90	82.4	60.8	68.7	10.05
Guanajuato	6,640	24.24	84.0	53.8	67.3	7.62
Leon (Guanajuato)	5,906	24.24	91.0	73.0	83.7	w.
Mazatlan	25	29.81	.....	.....	.....	uw.
Merida	50	29.87	96.1	64.0	80.6	74
Mexico (Obs. Cent.)	7,472	23.04	75.2	50.4	61.5	73
Mexico (E. N. Agric.)	7,442	.....	.....	.....	4.41	nw.
Monterey (Seminario)	1,626	.....	.....	.....	4.11	se.
Morelia (Seminario)	6,401	23.90	74.3	52.5	61.0	79
Pachuca	7,959	.....	.....	.....	.....	.....
Puebla (Col. Cath.)	7,108	23.33	75.9	48.2	60.4	81
Puebla (Col. d Est.)	7,118	23.32	75.9	47.7	60.8	76
Queretaro	6,070	.....	.....	.....	6.69	e.
Toluca	8,812	.....	.....	.....	.....	.....
Zacatecas	8,015	22.54	79.0	45.0	58.6	74
Zapotlan	5,078	.....	.....	.....	4.63	e.

*The monthly barometric means are reduced to the international standard of gravity.